

WHAT IS CLAIMED IS:

1. A method of manufacturing a ceramic composite, the method comprising the steps of:

preparing at least two ceramics bodies to be bonded together, each of the at least two ceramics bodies having a bonding surface;

preparing a slurry in which primary particles of a bonding ceramic are dispersed;

applying the slurry to the bonding surface of at least one of the ceramic bodies to be bonded; and

sintering the ceramic bodies between which the slurry has been interposed to bond them.

2. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the at least two ceramics bodies have different porosities.

3. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein at least one of the ceramic bodies has a porosity of 15 to 70%.

4. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the at least two ceramics bodies have the identical compositions.

5. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein at least one of the ceramic bodies is composed of calcium phosphate-based compounds.

6. The method of manufacturing the ceramic composite as claimed in Claim 5, wherein at least one of the ceramic bodies is composed of calcium phosphate-based compounds with a Ca/P ratio of 1.0 to 2.0.

7. The method of manufacturing the ceramic composite as claimed in Claim 5, wherein the calcium phosphate-based compounds include hydroxyapatite.

8. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the bonding ceramic in the slurry is constituted from the same material as that of at least one of the ceramic bodies to be bonded.

9. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the content of the bonding ceramic in the slurry is 0.1 to 20 vol%.

10. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the particles of the bonding ceramic have an average grain size of 0.05 to 0.5  $\mu\text{m}$ .

11. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the bonding ceramic is composed of calcium phosphate-based compounds.

12. The method of manufacturing the ceramic composite as claimed in Claim 11, wherein the bonding ceramic is composed of calcium phosphate-based compounds with a Ca/P ratio of 1.0 to 2.0.

13. The method of manufacturing the ceramic composite as claimed in Claim 11, wherein the calcium phosphate-based compounds include hydroxyapatite.

14. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the step of sintering the ceramic bodies is carried out in accordance with a non-pressure sintering method.

15. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the step of sintering the ceramic bodies is carried out at a temperature from 900 to 1300°C.

16. The method of manufacturing the ceramic composite as claimed in Claim 1, wherein the slurry does not contain any resin components therein.

17. A ceramic composite manufactured in accordance with the method

a as claimed in ~~any one of~~ Claims 1 to 16.

18. A bone replacement material manufactured in accordance with

a the method as claimed in ~~any one of~~ Claims 1 to 16.

Add B<sup>2</sup>  
Add C<sup>2</sup>  
Add D<sup>5</sup>